

SEQUENCE LISTING

<110> Jegla, Timothy James
 Wickenden, Alan
 Liu, Yi
 ICAgen, Inc.

<120> BK Beta Subunits of Slo Family Potassium Channels

<130> 018512-002030US

<140> US 09/914,053

<141> Not yet assigned

<150> US 60/121,224

<151> 1999-02-23

<150> US 60/163,367

<151> 1999-11-03

<150> WO PCT/US00/04441

<151> 2000-02-22

<160> 19

<170> PatentIn Ver. 2.1

<210> 1

<211> 257

<212> PRT

<213> Homo sapiens

<220>

<223> BK beta 2

<400> 1

Met	Thr	Ala	Phe	Pro	Ala	Ser	Gly	Lys	Lys	Arg	Glu	Thr	Asp	Tyr	Ser
1				5					10					15	
Asp	Gly	Asp	Pro	Leu	Asp	Val	His	Lys	Arg	Leu	Pro	Ser	Ser	Thr	Gly
			20					25					30		
Glu	Asp	Arg	Ala	Val	Met	Leu	Gly	Phe	Ala	Met	Met	Gly	Phe	Ser	Val
		35					40					45			
Leu	Met	Phe	Phe	Leu	Leu	Gly	Thr	Thr	Ile	Leu	Lys	Pro	Phe	Met	Leu
	50					55					60				
Ser	Ile	Gln	Arg	Glu	Glu	Ser	Thr	Cys	Thr	Ala	Ile	His	Thr	Asp	Ile
65					70					75					80
Met	Asp	Asp	Trp	Leu	Asp	Cys	Ala	Phe	Thr	Cys	Gly	Val	His	Cys	His
				85					90					95	
Gly	Gln	Gly	Lys	Tyr	Pro	Cys	Leu	Gln	Val	Phe	Val	Asn	Leu	Ser	His
			100					105					110		
Pro	Gly	Gln	Lys	Ala	Leu	Leu	His	Tyr	Asn	Glu	Glu	Ala	Val	Gln	Ile
			115				120					125			

Asn	Pro	Lys	Cys	Phe	Tyr	Thr	Pro	Lys	Cys	His	Gln	Asp	Arg	Asn	Asp
130						135					140				
Leu	Leu	Asn	Ser	Ala	Leu	Asp	Ile	Lys	Glu	Phe	Phe	Asp	His	Lys	Asn
145					150					155					160
Gly	Thr	Pro	Phe	Ser	Cys	Phe	Tyr	Ser	Pro	Ala	Ser	Gln	Ser	Glu	Asp
				165					170					175	
Val	Ile	Leu	Ile	Lys	Lys	Tyr	Asp	Gln	Met	Ala	Ile	Phe	His	Cys	Leu
			180					185					190		
Phe	Trp	Pro	Ser	Leu	Thr	Leu	Leu	Gly	Gly	Ala	Leu	Ile	Val	Gly	Met
		195					200						205		
Val	Arg	Leu	Thr	Gln	His	Leu	Ser	Leu	Leu	Cys	Glu	Lys	Tyr	Ser	Thr
	210					215					220				
Val	Val	Arg	Asp	Glu	Val	Gly	Gly	Lys	Val	Pro	Tyr	Ile	Glu	Gln	His
225					230					235					240
Gln	Phe	Lys	Leu	Cys	Ile	Met	Arg	Arg	Ser	Lys	Gly	Arg	Ala	Glu	Lys
			245						250					255	

Ser

<210> 2
 <211> 774
 <212> DNA
 <213> Homo sapiens

<220>
 <223> BK beta 2

<400> 2

atgacagcct	ttcctgcctc	agggaagaag	agagagacag	actacagtga	tggagaccca	60
ctagatgtgc	acaagaggct	gccatccagt	actggagagg	accgagccgt	gatgctgggg	120
tttgccatga	tgggcttctc	agtcctaatt	ttcttcttgc	tcggaacaac	cattctaaag	180
ccttttatgc	tcagcattca	gagagaagaa	tcgacctgca	ctgccatcca	cacagatatc	240
atggacgact	ggctggactg	tgccttcacc	tgtggtgtgc	actgccacgg	tcaggggaag	300
taccogtgtc	ttcaggtgtt	tgtgaacctc	agccatccag	gtcagaaagc	tctctacat	360
tataatgaag	aggctgtcca	gataaatccc	aagtgccttt	acacacctaa	gtgccaccaa	420
gatagaaatg	atttgctcaa	cagtgcctctg	gacataaaaag	aattcttcga	tcacaaaaat	480
ggaacccccct	tttcatgctt	ctacagtcca	gccagccaat	ctgaagatgt	cattcttata	540
aaaaagtatg	accaaatggc	tatcttccac	tgtttatatt	ggccttcact	gactctgcta	600
ggtggtgccc	tgattgttgg	catggtgaga	ttaacacaac	acctgtcctt	actgtgtgaa	660
aaatatagca	ctgtagtcag	agatgaggta	ggtggaaaag	taccttatat	agaacagcat	720
cagttcaaac	tgtgcattat	gaggaggagc	aaaggaagag	cagagaaatc	ttaa	774

<210> 3
 <211> 203
 <212> PRT
 <213> Homalozoon vermiculare

<220>
 <223> BK beta 3

<400> 3

Met Ala Glu Ser Ser Cys Gly Thr Glu Tyr Thr Glu Ala Glu Asp Lys
 1 5 10 15

Ser Ile Arg Leu Gly Leu Phe Leu Ile Ile Ser Gly Val Val Ser Leu
 20 25 30

Phe Ile Phe Gly Phe Cys Trp Leu Ser Pro Ala Leu Gln Asp Leu Gln
 35 40 45

Ala Thr Glu Ala Asn Cys Thr Val Leu Ser Val Gln Gln Ile Gly Glu
 50 55 60

Val Phe Glu Cys Thr Phe Thr Cys Gly Ala Asp Cys Arg Gly Thr Ser
 65 70 75 80

Gln Tyr Pro Cys Val Gln Val Tyr Val Asn Asn Ser Glu Ser Asn Ser
 85 90 95

Arg Ala Leu Leu His Ser Asp Glu His Gln Leu Leu Thr Asn Pro Lys
 100 105 110

Cys Ser Tyr Ile Pro Pro Cys Lys Arg Glu Asn Gln Lys Asn Leu Glu
 115 120 125

Ser Val Met Asn Trp Gln Gln Tyr Trp Lys Asp Glu Ile Gly Ser Gln
 130 135 140

Pro Phe Thr Cys Tyr Phe Asn Gln His Gln Arg Pro Asp Asp Val Leu
 145 150 155 160

Leu His Arg Thr His Asp Glu Ile Val Leu Leu His Cys Phe Leu Trp
 165 170 175

Pro Leu Val Thr Phe Val Val Gly Val Leu Ile Val Val Leu Thr Ile
 180 185 190

Cys Ala Lys Ser Leu Ala Val Lys Ala Glu Arg
 195 200

<210> 4

<211> 612

<212> DNA

<213> Homo sapiens

<220>

<223> BK beta 3

<400> 4

atggccgaga gcagctgcgg caccgagtag acggaagccg aggacaagag catccggctc 60
 ggcttggttc tcatcatctc cggcgctcgtg tcgctcttca tcttcggctt ctgctggctg 120
 agtcccgcgc tgcaggatct gcaagccacg gaggccaatt gcacggtgct gtcggtgcag 180
 cagatcggcg aggtgttcga gtgcacctc acctgtggcg ccgactgcag gggcacctcg 240
 cagtaccctt gcgtccaggt ctacgtgaac aactctgagt ccaactctag ggcgctgcta 300
 cacagcgacg agcaccagct cctgaccaac cccaagtgtc cctatatccc tccctgtaag 360
 agagaaaatc agaagaattt ggaaagtgtc atgaattggc aacagtactg gaaagatgag 420
 attggttccc agccatttac ttgctatttt aatcaacatc aaagaccaga tgatgtgctt 480
 ctgcacgcga ctcattgatga gattgtcctc ctgcattgct tcctctggcc cctggtgaca 540
 tttgtggttg gcgttctcat tgtggtcctg accatctgtg ccaagagctt ggcggtcaag 600
 gcggaacgat ga 612

<210> 5
 <211> 235
 <212> PRT
 <213> Homo sapiens

<220>
 <223> BK beta 4

<400> 5
 Met Ser Ile Trp Thr Ser Gly Arg Thr Ser Ser Ser Tyr Arg His Asp
 1 5 10 15
 Glu Lys Arg Asn Ile Tyr Gln Lys Ile Arg Asp His Asp Leu Leu Asp
 20 25 30
 Lys Arg Lys Thr Val Thr Ala Leu Lys Ala Gly Glu Asp Arg Ala Ile
 35 40 45
 Leu Leu Gly Leu Ala Met Met Val Cys Ser Ile Met Met Tyr Phe Leu
 50 55 60
 Leu Gly Ile Thr Leu Leu Arg Ser Tyr Met Gln Ser Val Trp Thr Glu
 65 70 75 80
 Glu Ser Gln Cys Thr Leu Leu Asn Ala Ser Ile Thr Glu Thr Phe Asn
 85 90 95
 Cys Ser Phe Ser Cys Gly Pro Asp Cys Trp Lys Leu Ser Gln Tyr Pro
 100 105 110
 Cys Leu Gln Val Tyr Val Asn Leu Thr Ser Ser Gly Glu Lys Leu Leu
 115 120 125
 Leu Tyr His Thr Glu Glu Thr Ile Lys Ile Asn Gln Lys Cys Ser Tyr
 130 135 140
 Ile Pro Lys Cys Gly Lys Asn Phe Glu Glu Ser Met Ser Leu Val Asn
 145 150 155 160
 Val Val Met Glu Asn Phe Arg Lys Tyr Gln His Phe Ser Cys Tyr Ser
 165 170 175
 Asp Pro Glu Gly Asn Gln Lys Ser Val Ile Leu Thr Lys Leu Tyr Ser
 180 185 190
 Ser Asn Val Leu Phe His Ser Leu Phe Trp Pro Thr Cys Met Met Ala
 195 200 205
 Gly Gly Val Ala Ile Val Ala Met Val Lys Leu Thr Gln Tyr Leu Ser
 210 215 220
 Leu Leu Cys Glu Arg Ile Gln Arg Ile Asn Arg
 225 230 235

<210> 6
 <211> 707
 <212> DNA
 <213> Homo sapiens

<220>

<223> BK beta 4

<400> 6

```

atgtcgatat ggaccagtgg ccggacctct tcatcttata gacatgatga aaaaagaaat 60
atttaccaga aaatcagggg ccatgacctc ctggacaaaa ggaaaacagt cacagcactg 120
aaggcaggag aggaccgagc tattctcctg ggactggcta tgatgggtgtg ctccatcatg 180
atgtattttc tgctgggaat cacactcctg cgctcataca tgcagagcgt gtggaccgaa 240
gagtctcaat gcaccttgct gaatgcgtcc atcacggaaa catttaaytg ctccttcagc 300
tgtgggtccag actgctggaa actttctcag taccctgcc tccagggtgta cgtaaacctg 360
acttcttccg gggaaaagct cctcctctac cacacagaag agacaataaa aatcaatcag 420
aagtgtcctc atatacctaa atgtggaaaa aattttgaag aatccatgtc cctgggtgaat 480
gttgctcatgg aaaacttcag gaagtatcaa cacttctcct gctattctga cccagaagga 540
aaccagaaga gtgttatcct aacmaaactc tacagttcca acgtgctgtt ccattcactc 600
ttctggccaa cctgtatgat ggctgggggt gtggcaattg ttgccatggt gaaacttaca 660
cagtacctct ccctactatg tgagaggatc cacggatcaa tagataa 707

```

<210> 7

<211> 27

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer to
amplify BK beta 2

<400> 7

atgacagcct ttcctgcctc agggaag 27

<210> 8

<211> 29

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer to
amplify BK beta 2

<400> 8

agatttctct gctcttcctt tgctcctcc 29

<210> 9

<211> 24

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer to
amplify BK beta 2

<400> 9

ggctggctgg actgtagaag catg 24

<210> 10

<211> 27

<212> DNA

<213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence:primer to
 amplify BK beta 2

 <400> 10
 gaggctgtcc agataaatcc caagtgc 27

 <210> 11
 <211> 27
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:primer to
 amplify BK beta 2

 <400> 11
 ggactgagaa gcccatcatg gcaaacc 27

 <210> 12
 <211> 24
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:primer to
 amplify BK beta 3

 <400> 12
 atggccgaga gcagctgcgg cacc 24

 <210> 13
 <211> 28
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:primer to
 amplify BK beta 3

 <400> 13
 ttatcggtcc gccttgaccg ccaagctc 28

 <210> 14
 <211> 25
 <212> DNA
 <213> Artificial Sequence

 <220>
 <223> Description of Artificial Sequence:primer to
 amplify BK beta 3

 <400> 14
 gatgtgcttc tgcacgcac tcatg 25

<210> 15
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer to
 amplify BK beta 2

<400> 15
 aagatgtcga tatggaccag tggcc

25

<210> 16
 <211> 27
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer to
 amplify BK beta 2

<400> 16
 ttatctattg atccgttgga tcctctc

27

<210> 17
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer to
 amplify BK beta 2

<400> 17
 ctccttcagc tgcctccag actgc

25

<210> 18
 <211> 25
 <212> DNA
 <213> Artificial Sequence

<220>

<223> Description of Artificial Sequence:primer to
 amplify BK beta 4

<400> 18
 gtcccagtag aatagctcgg tcctc

25

<210> 19
 <211> 191
 <212> PRT
 <213> Homo sapiens

<220>

<223> BK beta 1

<400> 19

Met	Val	Lys	Lys	Leu	Val	Met	Ala	Gln	Lys	Arg	Gly	Glu	Thr	Arg	Ala
1				5					10					15	
Leu	Cys	Leu	Gly	Val	Thr	Met	Val	Val	Cys	Ala	Val	Ile	Thr	Tyr	Tyr
			20					25					30		
Ile	Leu	Val	Thr	Thr	Val	Leu	Pro	Leu	Tyr	Gln	Lys	Ser	Val	Trp	Thr
		35					40					45			
Gln	Glu	Ser	Lys	Cys	His	Leu	Ile	Glu	Thr	Asn	Ile	Arg	Asp	Gln	Glu
	50					55					60				
Glu	Leu	Lys	Gly	Lys	Lys	Val	Pro	Gln	Tyr	Pro	Cys	Leu	Trp	Val	Asn
65					70					75					80
Val	Ser	Ala	Ala	Gly	Arg	Trp	Ala	Val	Leu	Tyr	His	Thr	Glu	Asp	Thr
				85					90					95	
Arg	Asp	Gln	Asn	Gln	Gln	Cys	Ser	Tyr	Ile	Pro	Gly	Ser	Val	Asp	Asn
			100					105					110		
Tyr	Gln	Thr	Ala	Arg	Ala	Asp	Val	Glu	Lys	Val	Arg	Ala	Lys	Phe	Gln
		115					120					125			
Glu	Gln	Gln	Val	Phe	Tyr	Cys	Phe	Ser	Ala	Pro	Arg	Gly	Asn	Glu	Thr
	130					135					140				
Ser	Val	Leu	Phe	Gln	Arg	Leu	Tyr	Gly	Pro	Gln	Ala	Leu	Leu	Phe	Ser
145					150					155					160
Leu	Phe	Trp	Pro	Thr	Phe	Leu	Leu	Thr	Gly	Gly	Leu	Leu	Ile	Ile	Ala
				165					170					175	
Met	Val	Lys	Ser	Asn	Gln	Tyr	Leu	Ser	Ile	Leu	Ala	Ala	Gln	Lys	
			180					185					190		